

Cystic Fibrosis Research News

Title:

Effects of postage on recovery of pathogens from cystic fibrosis sputum samples

Lay Title:

Postage of sputum samples from home to clinic can be used for microbiology surveillance

Authors:

Lauren Hatfield¹, Brooke Bianco², Helen Gavillet¹, Phillipa Burns³, Damian Rivett⁴, Matthew Smith^{5,6}, Andrew Jones², Christopher van der Gast^{1, 7, *}, Alexander Horsley^{2, 8, *}

Affiliations:

¹Department of Life Sciences, Manchester Metropolitan University, Manchester, UK

²Manchester Adult Cystic Fibrosis Centre, Manchester University NHS Foundation Trust, Manchester, UK

³Department of Infection, Hull University Teaching Hospitals NHS Trust, Hull Royal Infirmary, Hull, UK

⁴Department of Natural Sciences, Manchester Metropolitan University, Manchester, UK

⁵UK Health Security Agency, Manchester, UK

⁶Manchester Medical Microbiology Partnership, Manchester University NHS Foundation Trust, Manchester, UK

⁷Department of Respiratory Medicine, Northern Care Alliance NHS Foundation Trust, Salford, UK

⁸Division of Infection, Immunity and Respiratory Medicine, University of Manchester, Manchester, UK

* Correspondence to: Professor Alex Horsley, Division of Infection, Immunity and Respiratory Medicine, The University of Manchester, Manchester, UK. alexander.horsley@manchester.ac.uk; and Professor Chris van der Gast, Department of Life Sciences, Manchester Metropolitan University, Manchester, UK. C.vanderGast@mmu.ac.uk

What was your research question?

As posted samples are increasingly being used for microbiological surveillance of lung infection, we need to know that these are reliable at identifying the pathogens from the lungs of people with living Cystic Fibrosis (CF).

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Why is this important?

Regular surveillance microbiology of sputum is used in cystic fibrosis (CF) to monitor for new pathogens and target treatments. A move to remote clinics has meant greater reliance on samples collected at home and posted back. The impact of delays and sample disruption caused by posting has not been systematically assessed but could have significant implications for CF microbiology.

What did you do?

We have looked at 93 samples from 73 patients, posted back to the lab, and assessed the impact of this delay on both culture-based and molecular analyses of the same sputum samples.

What did you find?

Even with delays of over 7 days, culture-based pathogen retrieval was essentially unchanged by posting. For molecular techniques the retrieval of typical CF pathogens is also robust, with no significant change in CF pathogen abundances or in the wider microbiota.

What does this mean and reasons for caution?

We describe detailed analyses of the CF microbiology and show how these appear to be unaffected by even prolonged delays due to posting. These are discussed in the context of changes to sample collection in CF that have occurred in the last few years. This supports use of posted samples during remote monitoring.

What's next?

In a time where remote clinics are being deployed for other chronic respiratory diseases, our work provides reassurance that samples posted from home can be relied upon for research and clinical interpretation. Next steps are to deploy this as a useful and routine tool in CF clinics.

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